

CLAIMS:

1. An apparatus for preventing leaks from an air release valve on a fluid-filled plumbing

5 system, comprising:

an air release valve coupled to a fluid-filled plumbing system;

10 a liquid sensitive valve coupled to said air release valve, said liquid sensitive valve being designed to remain open until said liquid sensitive valve is closed due to action of a liquid sensitive switch;

a liquid sensitive switch coupled to said liquid sensitive valve;

15 a container for collecting fluid flow that passes from said air release valve;

a constrained path coupled to said air release valve, said constrained path allowing fluid to flow from said air release valve through said constrained path and into said container; and wherein said constrained path comprises said liquid sensitive valve.

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2. An apparatus of claim 1 wherein said fluid-filled plumbing system is a fire sprinkler or standpipe system.

3. An apparatus of claim 1 wherein said liquid sensitive valve is a WAGS valve.

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4. An apparatus of claim 1 wherein said liquid sensitive valve is coupled to said air release valve via a generally U-shaped pipe.

25 5. An apparatus of claim 1 wherein said liquid sensitive switch is selected from the group

including, a float switch, a chemical switch, and a soluble switch.

6. An apparatus of claim 1 wherein said liquid sensitive switch is triggered upon the leakage of a predetermined amount of fluid from said air release valve during a predetermined amount of time.

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7. An apparatus of claim 1 wherein said liquid sensitive switch is triggered upon the collection in the container of a predetermined amount of collected fluid, wherein said predetermined amount of collected fluid remains in said container for a predetermined amount of time.

10 8. An apparatus of claim 1 wherein the triggering of said liquid sensitive switch causes said liquid sensitive valve to close.

9. An apparatus of claim 1 wherein the closure of said liquid sensitive valve prevents fluid from passing from said air release valve through said constrained path into said container.

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10. An apparatus of claim 1 wherein said container has an open top.

11. A method for preventing damage resulting from a failed air release valve on a fluid-filled plumbing system, comprising:

20 providing an apparatus comprising:

an air release valve coupled to a fluid-filled plumbing system;

a constrained path coupled to said air release valve through which fluid may flow from said air release valve into a container; and

a container coupled to said fluid-filled plumbing system for containing fluid flow

that passes from said air release valve through said constrained path; accumulating liquid in said container upon the failure of said air release valve; and preventing damage resulting from a failed air release valve through containment of the accumulated liquid.

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12. A method for preventing damage of claim 11, further comprising:

providing an apparatus further comprising:

a liquid sensitive valve coupled to said air release valve, said liquid sensitive valve being designed to remain open until said liquid sensitive valve is closed due to action of a liquid sensitive switch;

a liquid sensitive switch coupled to said liquid sensitive valve; and

wherein said constrained path comprises said liquid sensitive valve;

triggering said liquid sensitive switch due to the accumulation of liquid in said container;

closing said liquid sensitive valve as a result of the triggering of said liquid sensitive

15 switch;

stopping fluid flow through said constrained path upon the closure of said liquid sensitive valve;

preventing leakage from said air release valve by stopping fluid flow through said constrained path; and

20 preventing damage resulting from a failed air release valve through the prevention of leakage from said air release valve.

13. A method of claim 12 wherein said liquid sensitive valve is a WAGS valve.

14. A method for preventing damage of claim 11, further comprising:

providing an apparatus further comprising:

a liquid sensitive valve coupled to said air release valve, said liquid sensitive valve

being designed to remain open until said liquid sensitive valve is closed due to action

5 of a liquid sensitive switch;

a liquid sensitive switch coupled to said liquid sensitive valve; and

wherein said constrained path comprises said liquid sensitive valve;

triggering said liquid sensitive switch due to leakage of a predetermined amount of fluid

from said air release valve during a predetermined amount of time;

10 closing said liquid sensitive valve as a result of the triggering of said liquid sensitive switch;

stopping fluid flow through said constrained path upon the closure of said liquid sensitive valve;

preventing leakage from said air release valve by stopping fluid flow through said

15 constrained path; and

preventing damage resulting from a failed air release valve through the prevention of leakage from said air release valve.

15. A method of claim 14 wherein said liquid sensitive valve is a WAGS valve.

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16. A method for signaling the failure of an air release valve on a fluid-filled plumbing system, comprising:

providing an apparatus comprising:

an air release valve coupled to a fluid-filled plumbing system;

a constrained path coupled to said air release valve through which fluid may flow from said air release valve into a container;

a container coupled to said fluid-filled plumbing system for containing fluid flow that passes from said air release valve through said constrained path; and

5 a liquid sensitive switch within said container;

accumulating liquid in said container upon the failure of said air release valve;

triggering said liquid sensitive switch due to the accumulation of liquid in said container;

and

signaling the failure of the air release valve as a result of the triggering of said liquid

10 sensitive switch.

17. A method of signaling of claim 16 wherein the step of signaling further comprises use of at least one of a visual signal, an electrical signal, and an auditory signal.

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